

Selection & Specification Data

Generic Type	Solvent Based Inorganic Zinc
Description	Ultra-low VOC member of the Carbozinc family with extraordinary corrosion resistance properties. Carbozinc 11 HS combines unparalleled performance characteristics with an ultra-low VOC formulation that meets some of the most stringent VOC restrictions.
Features	<ul style="list-style-type: none"> • Meets Class B slip co-efficient and creep testing criteria for use on faying surfaces • Rapid cure. Dry to handle in 1 hour at 75°F (24°C) and 50% relative humidity • Low temperature cure down to 15°F (-9°C) • High zinc loading • Available in ASTM D520, Type II zinc version • Very good resistance to salting • May be applied with airless or conventional spray • Excellent as a lining for solvent storage* (Green color only) • May be used as a weldable pre-construction primer where VOC regulations prohibit traditional coatings. Exhibits long-term corrosion resistance during pre-construction is required with full recoatability and weldability • Ultra-low VOC level for solvent-based inorganic zincs <p><small>*Always consult Carboline Technical Service for tank lining recommendations</small></p>
Color	Standard: Green (0300) Special Order: Grey (0700)
Finish	Flat
Primer	Self Priming
Topcoat	Acrylics, Epoxies, Polyurethanes, High Heat, Silicones, Silicates
	<small>Not required for certain exposures. A mist-coat/full-coat spray technique is often required to minimize topcoat bubbling.</small>
Service Temperature	<u>Untopcoated</u> Continuous: 750°F (400°C) Non-Continuous: 800°F (427°C) <u>With recommended high heat topcoats:</u> Continuous: 1000°F (538°C) Non-Continuous: 1200°F (649°C)
Dry Film Thickness	2.0 - 3.0 mils (51 - 76 microns) per coat
	<small>0.50-1.00 mils (12-25 microns) per coat for weldable, pre-construction primer. Dry film thickness in excess of 6.0 mils (150 microns) per coat is not recommended.</small>
Solids Content	By Weight 91% ± 2%
Zinc Content in Dry Film	By Weight 84% ± 2% in dry film
Theoretical Coverage Rates	1203 square feet/gal at 1 mil (29.9 square meters/liter at 25 microns) DFT; 401 square feet/gal at 3 mils (9.98 square meters/liter at 75 microns) DFT.

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VOC Values	Thinner 236 E	38 oz/gal: 2.4 lbs./gal (288 g/l)
	Thinner 254	8 oz/gal: 2.73 lbs./gal (327 g/l)
	Thinner 26	15.28 oz/gal: 2.95 lbs./gal (354 g/l)
	Thinner 33	15.28 oz/gal: 2.95 lbs./gal (354 g/l)
	As Supplied	2.4 lbs./gal (288 g/l)

These are nominal values. When used as a pre-construction primer thin up to 38 oz/gal using exempt Thinner 236 E.

Substrates & Surface Preparation

General	Surfaces must be clean and dry. Employ adequate methods to remove dirt, dust, oil and all other contaminants that could interfere with adhesion of the coating.
Steel	SSPC-SP6 Surface Profile: 1.0-3.0 mils (25-75 micron)

Performance Data

Test Method	System	Results
AASHTO M300	Blasted Steel 1 ct. CZ 11 HS	No blistering or rusting of coating or any bare steel areas
ASTM A-325 or A-490 Slip co-efficient	1 ct. CZ 11 HS	0.58 meets requirements for Class B rating
ASTM B117 Salt Spray	Blasted Steel 1 ct. CZ 11 HS	No rusting or blistering; slight rust in scribe, no creepage at scribe after 70,000 hours
ASTM D3363 Pencil hardness	1 ct. CZ 11 HS	Pencil Hardness 3 H

Mixing & Thinning

Mixing	Power mix base, then combine and power mix as follows. Pour zinc filler very slowly into premixed base with continuous agitation. Mix until free of lumps. Then add activator and mix for another 2 minutes. Pour mixture through a 30 mesh screen. DO NOT MIX PARTIAL KITS. Note: Will not cure without the use of the Activator as defined below. Tip: Sifting zinc through a window screen will aid in the mixing process by breaking up or catching dry zinc lumps.
Thinning	Normally not required but may be thinned up to 11 oz per .72 gal kit or 55 oz per 3.6 gal kit with Thinner #26 or #33. Use of thinners other than those supplied by Carboline may adversely affect product performance and void product warranty, whether expressed or implied. For use as a weldable zinc primer to achieve a recommended DFT of 0.50-1.00 mils, thin this product starting with 10% (and up to 30%) with Thinner #236E. Consult Carboline Technical Service for guidance.

Carbozinc[®] 11 HS

Mixing & Thinning

Ratio 0.72 Gal Kit
Part A: Short fill 1-gal
Activator: 6.4 fl. oz.
Zinc Filler: 14.6 lbs
(3.6 Gal Kit)
Part A: Short fill 5-gal
Activator: 32 fl. oz.
Zinc Filler: 73 lbs

Pot Life 8 Hours at 75°F (24°C) and less at higher temps. Pot life ends when coating becomes too viscous.

Application Equipment Guidelines

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

Spray Application (General) The following spray equipment has been found suitable and is available from equipment manufacturers. Keep material under mild agitation during application. If spraying stops for more than 10 minutes, recirculate the material remaining in the spray line. Do not leave mixed primer in the hoses during work stoppages.

Conventional Spray Agitated pressure pot equipped with dual regulators, 3/8" I.D. minimum material hose, with a maximum length of 50 feet; .070" I.D. fluid tip and appropriate air cap.

Airless Spray Pump Ratio: 30:1 (min.)
GPM Output: 3.0 (min.)
Material Hose: 3/8" I.D. (min.)
Tip Size: 0.017-0.021"
Output PSI: 2100-2500
Filter Size: 60 mesh
PTFE packings are recommended and available from the pump manufacturer.

Brush For touch-up of areas less than one square foot only. Use medium bristle brush and avoid rebrushing.

Roller Not recommended.

Application Conditions

Condition	Material	Surface	Ambient	Humidity
Minimum	15 °F (-9 °C)	15 °F (-9 °C)	15 °F (-9 °C)	30%
Maximum	95 °F (35 °C)	150 °F (66 °C)	120 °F (49 °C)	95%

This product simply requires the substrate temperature to be above the dew point. Condensation due to substrate temperatures below the dew point can cause flash rusting on prepared steel and interfere with proper adhesion to the substrate. Special application techniques may be required above or below normal application conditions.

Curing Schedule

Surface Temp. & 50% Relative Humidity	Dry to Handle	Dry to Topcoat
15 °F (-9 °C)	16 Hours	7 Days
40 °F (4 °C)	4 Hours	72 Hours
60 °F (16 °C)	2 Hours	36 Hours
75 °F (24 °C)	1 Hours	18 Hours
100 °F (38 °C)	45.0 Minutes	14 Hours

These times are based on a 3.0 mil (75 micron) dry film thickness. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times and could result in solvent entrapment and premature failure. Humidity levels below 50% will require longer cure times. **Notes:** Any salting that appears on the zinc surface as a result of prolonged weathering exposure must be removed prior to the application of additional coatings. Also, loose zinc must be removed from the cured film by rubbing with fiberglass or aluminum screen wire when "dry spray/overspray" is evident on the cured film and a topcoat will be applied. For accelerated curing or where the relative humidity is below 40%, allow an initial 2-hour ambient cure followed by misting with water or steam to keep the coated surface wet for a minimum of 8 hours and until the film achieves a "2H" pencil hardness per ASTM D3363.

Cleanup & Safety

Cleanup Use Thinner #21 or Isopropyl Alcohol. In case of spillage, absorb and dispose of in accordance with local applicable regulations.

Safety Read and follow all caution statements on this product data sheet and on the MSDS for this product. Wear protective clothing, gloves and use protective cream on face, hands and all exposed areas.

Ventilation When used in enclosed areas, thorough air circulation must be used during and after application until the coating is cured. The ventilation system should be capable of preventing the solvent vapor concentration from reaching the lower explosion limit for the solvents used. Appropriate respirators must be used by all application personnel.

Packaging, Handling & Storage

Shelf Life Part A: 12 months at 75°F (24°C)
Part B: 24 months at 75°F (24°C)
Part C: 24 months at 75°F (24°C)

*Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.

Shipping Weight (Approximate) 0.72 Gallon Kit - 22 lbs (10 kg)
3.6 Gallon Kit - 103 lbs (47 kg)

Storage Temperature & Humidity 40° -100°F (4-38°C).
0-90% Relative Humidity

Flash Point (Setaflash) Carbozinc 11 HS base: 55°F (13°C)
HS Activator: 90°F (33°C)
Zinc Filler: N/A

Storage Store Indoors.



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